Technical Data Sheet

Purified Mouse Anti-HIF-1β/ARNT1

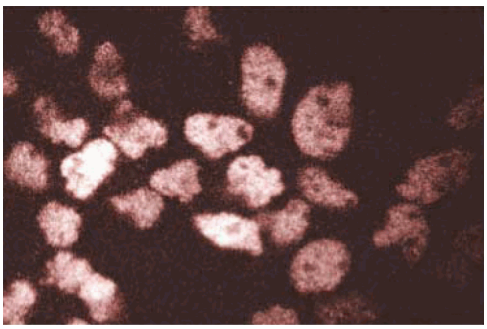
Product Information

Material Number:	**611079**
Size:	150 µg
Concentration:	250 µg/ml
Clone:	29/HIF-1b
Immunogen:	Human HIF-1β/ARNT1 aa. 461-574
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat
Target MW:	95 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

The Ah-receptor (AHR) is a ligand activated transcription factor that mediates the biological effects of agonists. AHR dimerizes with a structurally related protein known as ARNT (**a**rylhydrocarbon-**r**eceptor **n**uclear **t**ransducer). This heterodimer binds enhancer elements and induces the expression of target genes, specifically those involved in the metabolism of xenobiotics. ARNT1 and ARNT2 are members of the basic-helix-loop-helix-PAS family of heterodimeric transcription factors, which also includes AHR, hypoxia-inducible factor-1α (HIF-1α), and the *Drosophila* single-minded protein (Sim). While ARNT2 expression is limited to brain and kidney, ARNT1 exhibits ubiquitous expression. A targeted disruption of the *Arnt* locus in the mouse yields embryonic stem cells that fail to activate genes that normally respond to low oxygen tension. Arnt -/- embryos do not survive and show defective angiogenesis of the yolk sac and branchial arches, stunted development, and wasting. Thus, in addition to its regulation of xenobiotic metabolism genes, ARNT is thought to induce developmental gene expression resulting in vascularization of the developing embryo.

Western blot analysis of HIF-1β on Jurkat cell lysate.
Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the Mouse Anti- HIF-1β antibody.



Immunofluorescent staining of A431 cells.

Preparation and Storage

Store undiluted at -20°C.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

BD Biosciences
bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	800.979.9408	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country contact information, visit **bdbiosciences.com/contact**

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Ambrosini G, Nath AK, Sierra-Honigmann MR, Flores-Riveros J. Transcriptional activation of the human leptin gene in response to hypoxia. Involvement of hypoxia-inducible factor 1. *J Biol Chem.* 2002; 277(37):34601-64609. (Clone-specific: Gel shift, Western blot)

Drutel G, Kathmann M, Heron A, Schwartz JC, Arrang JM. Cloning and selective expression in brain and kidney of ARNT2 homologous to the Ah receptor nuclear translocator (ARNT). *Biochem Biophys Res Commun.* 1996; 225(2):333-339. (Biology)

Fallone F, Britton S, Nieto L, Salles B, Muller C. ATR controls cellular adaptation to hypoxia through positive regulation of hypoxia-inducible factor 1 (HIF-1) expression. *Oncogene.* 2013; 32(37):4387-4396. (Clone-specific: Western blot)

Jiang BH, Jiang G, Zheng JZ, Lu Z, Hunter T, Vogt PK. Phosphatidylinositol 3-kinase signaling controls levels of hypoxia-inducible factor 1. *Cell Growth Differ.* 2001; 12(7):363-369. (Clone-specific: Western blot)

Maltepe E, Schmidt JV, Baunoch D, Bradfield CA, Simon MC. Abnormal angiogenesis and responses to glucose and oxygen deprivation in mice lacking the protein ARNT. *Nature.* 1997; 386(6623):403-407. (Biology)

Suzuki H, Tomida A, Tsuruo T. Dephosphorylated hypoxia-inducible factor 1alpha as a mediator of p53-dependent apoptosis during hypoxia. *Oncogene.* 2001; 20(41):5779-5788. (Clone-specific: Immunoprecipitation, Western blot)

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	800.979.9408	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country contact information, visit **bdbiosciences.com/contact**